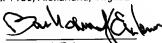




IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Barbara J. Enlow

Application No. : 09/803,889 Confirmation No. 2982  
Applicant : Hilary Laing de Leon et al.  
Filed : March 13, 2001  
Title : SELF-CONTAINED FLIGHT DATA RECORDER WITH  
WIRELESS DATA RETRIEVAL  
TC/A.U. : 3663  
Examiner : Ronnie M. Mancho  
Docket No. : 7645.00001  
Customer No. : 29747

Mail Stop AF  
Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22131-1450

**AMENDMENT/RESPONSE  
REQUEST FOR CONTINUED EXAMINATION**

Commissioner:

In response to the Advisory action dated July 1, 2004 denying applicant's amendments after final rejection applicant submits this RCE.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks** begin on page 5 of this paper.

An appropriate **Petition for Extension of Time** has been filed concurrently herewith along with the appropriate fee extending the pendency of this application up to and including July 14, 2004.

**Amendments to the Claims:**

Claims 1-17 and 19-20 have been cancelled. Please amend claims 18 and 21-26. All pending and withdrawn claims are listed below. This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1-17 (cancelled)

18. (currently amended) A flight data recording system comprising:

an onboard flight data recorder unit and a ground-based data retrieving station, wherein said onboard flight data recorder unit is comprised of a single physical enclosure containing a central processing unit, a plurality of sensors ~~monitoring the~~ for monitoring an aircraft's condition, a global position system (GPS) receiver, a non-volatile memory for recording flight data and a wireless communications transceiver for retrieving said data all contained in a single physical enclosure-, said flight data recorder mounted on an aircraft floor or wall;

a GPS communications antenna; and

wherein said contained plurality of sensors allow joining the system to the aircraft power supply and ignition switch without having to connect the system to the aircraft's own corresponding flight instruments.

19-20 (cancelled)

21. (currently amended) The system of claim 18 wherein said wireless communications transceiver communicates with said ground-based data retrieving station comprised of a general-purpose desktop computer interfaced to a wireless transceiver wherein ~~said transceivers transmit at~~ each transceiver transmits at generally low-power and have generally short communications range and said data retrieval is performed on the ground at the end of the flight.

22. (currently amended) The system of claim 21 wherein said data retrieving station of claim 21 wherein said station can also be is implemented as a battery-operated portable hand-held computing device with a built-in wireless transceiver that can be held by a single human hand, allowing the person operating the retrieving station to approach the aircraft when retrieving data.

23. (currently amended) The system of claim 18 wherein said wireless means of communications can also operate underwater, operate underwater allowing data stored in the flight data recorder to be retrieved even if the aircraft is submerged in water.

24. (currently amended) A method of recording aircraft position data comprising:  
providing an onboard flight data recorder unit and a ground-based data retrieving station, wherein said onboard flight data recorder unit is comprised of a single physical enclosure containing a central processing unit, a plurality of sensors monitoring the for monitoring an aircraft's condition, a global position system (GPS) receiver, a non-volatile memory for recording flight data and a wireless communications transceiver for retrieving said data all contained in a single physical enclosure, said flight data recorder mounted on an aircraft floor or wall;

providing a GPS communications antenna;  
connecting the recorder to the aircraft power supply and ignition switch wherein based on the plurality of sensors the flight data recorder unit does not need to be connected to the aircraft's corresponding flight instruments; and

computing the difference between the between current and previous coordinates generated by the GPS receiver of claim 18; and then storing this difference the difference instead of the coordinate, thereby saving on coordinates thereby saving memory space.

25. (currently amended) The method of claim 24 wherein said recorded recorded position data is converted to absolute coordinates by the ground-based data retrieving station by adding the first a first recorded difference to the initial coordinates resulting in the

~~first~~ a first absolute coordinate and then adding to it ~~the next~~ a next recorded difference to produce ~~the second~~ a second absolute coordinate and so on, wherein said initial coordinates are recorded at the start of every flight.

26. (currently amended) A method of periodically recording aircraft position and flight data at a certain time interval which is set before the start of every flight by transmitting ~~the desired~~ a desired interval to the flight data recorder using the wireless communications device of ~~claim 21~~ claim 24.

27. (currently amended) The method of claim 26 wherein ~~the said recording~~ a recording time interval can be automatically varied in-flight depending on aircraft speed by:

computing ~~the speed~~ the speed of the aircraft by estimating ~~the distance~~ a distance traveled between two points and dividing by ~~the time~~ a time traveled;

comparing said speed with pre-set values to determine if the aircraft is taxiing, cruising or taking-off or landing; and

setting the time interval to ~~the highest~~ a highest value if the speed is equivalent to taxiing, intermediate value if cruising and ~~the lowest~~ a lowest value if taking off or landing.

## REMARKS

In the Office action made final dated January 14, 2004, claims 18-27 have been rejected. However, the Examiner indicates that claims 20, 24, 25 and 27 would be allowable if rewritten to overcome the rejections under of 35 U.S.C. §112 and to include all of the limitations of the base claim and any intervening claims.

Accordingly, applicant has amended the claims to overcome the rejections under 35 U.S.C. §112 and to include the limitations of the base claim and any intervening claims.

Moreover, applicant believes the Examiner's position regarding claim 20 is improper. Specifically, the Examiner states that claim 20 is inconsistent with the disclosure of the invention. Although the Examiner indicates that the claims are inconsistent with the disclosure, such is not the case. As set forth in the disclosure and the claims the sensors joined to the controller (20) are those contained within the flight data recorder, not the aircraft's own flight data instruments. Indeed, as shown in Figs. 1a, 2 and 3, the Sensor Signal Conditioning Module (22) is contained with the flight data recorder. Thus, the accelerometer (86), air pressure sensor (108), flap position indicators and gyroscope (118) shown in Fig. 3 are sensors contained within the flight data recorder, not the corresponding sensors or flight instruments manufactured with the aircraft. Accordingly, for example, the aircraft may have its own pressure sensor and the flight data recorder also has its own separate pressure sensor. Consequently, the flight data recorder does not need to be connected to the aircraft's flight instruments it works off its own separate instruments.

Moreover, page 10, paragraph 4 and page 13, paragraphs 3, 4, 5, etc., referred to by the Examiner discuss the sensors (i.e., instruments) contained in the flight data recorder, not the aircraft's original sensors or instruments. As a result, the flight data recorder is connected to the aircraft's power supply and ignition switch, but not necessarily any of the aircraft instruments.

Using the sensors from the flight data recorder obviates the need for pilots to tamper with the aircraft's flight instruments thereby avoiding FAA rules and regulations and eliminating accidental damage to vital aircraft instruments.

Thus, the identified limitation of claim 20, which has been incorporated into claim 18 via amendment, is not inconsistent with the disclosure thereby alleviating any concern

regarding 35 U.S.C. §112.

In addition, the Examiner states that the terms "low power" and "short communications range" of claim 21 are unclear. However, the specification clearly provides guidance regarding the meaning of "low power" and "short communications range." Specifically, page 16 recites in pertinent part that "[T]he power output is in the range of several milliwatts since the transceiver is designed to work over short distances, namely 50 to 100 meters." The sentence alone provides guidance for the meaning of the terms "low power" and "short communications range." Thus, the identified limitations of claim 21 are not unclear thereby alleviating any concern regarding 35 U.S.C. §112.

Please note that a Supplemental Declaration and Power of Attorney for Patent Applications was filed with the Amendment After Final Rejection yet our office did not receive a copy of the Advisory Action until July 13, 2004 from our client. Please send all future communications to our office so as to avoid any undue delays and possible untimely filings.

It is respectfully submitted that the application is now in condition for allowance and, accordingly, reconsideration and allowance are respectfully requested. Should any questions remain regarding the allowability of the application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

Quirk & Tratos  
3773 Howard Hughes Pkwy.  
Suite 500 North  
Las Vegas, Nevada 89109

Telephone : 702-792-3773  
Facsimile : 702 792-9002

Respectfully submitted,

By: 

Rob L. Phillips  
Registration No. 40,305

Date: July 14, 2004

*The Commissioner is hereby authorized to charge any deficiency or credit any overpayment of fees which may be required by this paper to Deposit Account No. 502466 including any fee for extension of time, or the fee for additional claims which may be required. Please show our docket number with any Deposit Account transaction. A copy of this letter is enclosed.*



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Mail Stop RCE  
Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22313-1450

PETITION FOR EXTENSION OF TIME  
UNDER 37 CFR 1.136(a)

Sir:

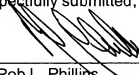
Applicant petitions the Commissioner to extend the time for response to the Office action dated January 14, 2004 for two (2) months from May 14, 2004 to July, 2004. A first Petition for Extension of Time for one month, together with the \$55 first month extension fee, was duly filed on April 30, 2004 extending the time for response to May 14, 2004.

Enclosed is a check in the amount of \$420, the difference between the \$475 third month extension fee which is due and the \$55 first month extension fee paid on April 30, 2004.

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Suite 500 North  
Las Vegas, Nevada 89109

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Facsimile : 702 792-9002

Respectfully submitted,

By:   
Rob L. Phillips  
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Date: July 14, 2004

*The Commissioner is hereby authorized to charge any deficiency or credit any overpayment of fees which may be required by this paper to Deposit Account No. 502466 including any fee for extension of time, or the fee for additional claims which may be required. Please show our docket number with any Deposit Account transaction. A copy of this letter is enclosed.*

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